

POROUS ASPHALT COURSE 1/2" TO 3/4" AGG. ASPHALTIC MIX

/2" AGGREGATE RESERVOIR COURSE

" TO 2" AGGREGATE

FILTER COURSE

HEINEME MEMEMEMEMEMEMEMEMEMEME EXISTING SOIL MINIMAL COMPACTION TO RETAIN POROSITY AND PERMEABILITY

#### POROUS ASPHALT PAVING TYPICAL SECTION NOT TO SCALE

CONSTRUCTION METHODS AND SPECIFICATIONS - POROUS PAVEMENT Stabilization

To preclude premature clogging and/or failure of this practice, porous asphalt paving structures shall not be placed into service until all of the surface drainage areas contributing to the pavement have been effectively stabilized in accordance with Maryland Standards and Specifications for Soil Erosion and Sediment Control.

#### Subgrade Preparation

- (1) Alter and refine the grades as necessary to bring subgrade to required grades and sections as shown in the drawings.
- (2) The type of equipment used in subgrade preparation construction shall not cause undue subgrade compaction. (Use tracked equipment or oversized rubber tire equipment - DO NOT use standard rubber tired equipment.) Traffic over subgrade shall be kept at a minimum. Where fill is required, it shall be compacted to a density equal to the undisturbed subgrade, and inherent soft spots corrected.

## Aggregate Base Course

- (1) All stone used shall be clean, washed, crushed stone, meeting local highway department specifications.
- (2) Aggregate shall be of two sizes: the reservoir base course shall be to depth as noted on drawings of aggregate (maximum of 2", minimum of 1"), and a 2-inch deep top course of 1/2" aggregate (maximum of 5/8", minimum 3/8").
- (3) Aggregate base course shall be laid over a dry subgrade covered with engineering filter fabric to a depth shown in drawings, in lifts to lay naturally compacted. The stone base course shall be compacted lightly. Keep the base course clean from debris, and sediment.

#### Porous Asphalt Surface Course

- (1) The surface course shall be laid directly over the 1/2" aggregate base course and shall be laid in one lift.
- (2) The laying temperature shall be between 230° and 260°, with minimum air temperature of 50°F, to make sure that the surface does not cool prior to compaction.
- (3) Compaction of surface course shall be done while the surface is cool enough to resist a 10-ton roller. One or two passes by the roller is all that is required for proper compaction. More rolling could cause a reduction in the surface course porosity.
- (4) Mixing plant shall certify the aggregate mix and abrasion loss factor and the asphalt content in the mix. The asphaltic mix shall be tested for its resistance to stripping by water using ASTM D 1664. If the estimated coating area is not above 95 percent, anti-stripping agents shall be added to the asphalt.
  - (5) Transporting of mix to site shall be in clean vehicle with smooth dump beds that have been sprayed with a non-petroleum release agent. The mix shall be covered during transportation to control
  - (6) Mix of asphalt shall be 5.5 to 6 percent of weight of dry aggregate.
- (7) Asphalt grade shall meet AASHTO Specification M-20 for 85 to 100 penetration road asphalt as a binder in the northern United States, 65 to 80 in the middle states (Maryland), and 50 to 65 in the
- (8) Aggregate grading shall be as specified in Table 3-3.

After final rolling, no vehicular traffic of any kind shall be permitted on the pavement until cooling and hardening has taken place, and in no case less than 6 hours (preferably a day or two).

#### Workmanship

- (1) Work shall be done expertly throughout and without staining or damage to other permanent work.
- (2) Make transition between existing and new paving work neat and flush.
- (3) Finished paving shall be even, without pockets, and graded to elevations shown.
- (4) Iron smoothly to grade, all minor surface projections and edges adjoining other materials.

#### Certification

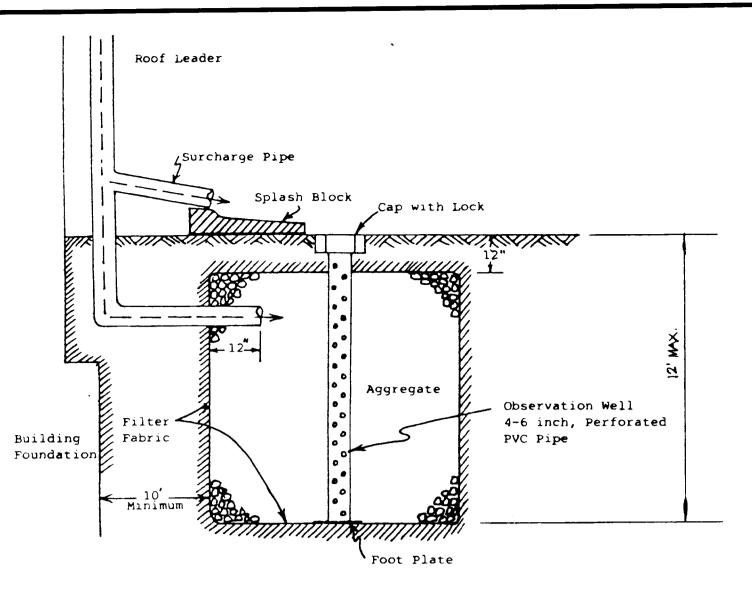
An appropriate professional, registered in the State of Maryland, shall certify that these specifications were complied with.

#### Maintenance

The surface of porous asphalt pavement must be cleaned regularly to avoid its becoming clogged by fine material. This cleaning is best accomplished through use of a vacuum cleaning street sweeper. Outside of regular cleaning, porous pavement requires no more maintenance than conventional pavement. In times of heavy snowfall it must be recognized that application of abrasive material should be closely monitored to avoid clogging problems once the snow and ice has melted. No method of maintenance has been satisfactory on fully clogged pavements, and only a superficially clogged section showing a water infiltration rate of 0.1 inches per second compared to a normal water penetration of 0.38 inches per second can be restored to normal operation. The best method for cleaning is brush and vacuum sweeping followed by high pressure water washing of the pavement. Vacuum cleaning alone, once the pavement is clogged, has been found ineffective. The oils in the asphalt bind dirt, and only an abrading and washing technique can be effective in the removal of such dirt. Clogging to a depth of 0.5 inch is sufficient to prevent water penetration.

# Traffic Control

Experience has shown the need for close control of contractor vehicles on newly installed areas of porous asphalt pavement. Damage to pavement porosity results chiefly from abuse during the early life of the pavement. Normally, paving is done while heavy construction or earth moving is continuing in an area. The pavement is thus subjected to mud and dirt from contractor vehicles for up to several months, and the continual passage of these vehicles compacts the dirt into the pores. Only if caked mud is cleaned from vehicle wheels and the pavement is cleaned daily by sweeping and high-pressure water washing can porosity be retained. Clogging can be further minimized by proper use of curbing to prevent surrounding soils from washing onto the pavement surface.



## DRY WELL CROSS SECTION NOT TO SCALE

# CONSTRUCTION SPECIFICATIONS - DRY WELL

A dry well shall not be constructed or placed in service until all of the contributing drainage area has been stabilized and approved by the responsible

#### Dry Well Preparation

Excavate the dry well to the design dimensions. Excavated materials shall be placed away from the excavated sides to enhance wall stability. Large tree roots shall be trimmed flush with the sides in order to prevent fabric puncturing or tearing during subsequent installation procedures. The side walls of the dry well shall be roughened where sheared and sealed by heavy equipment

#### Fabric Laydown

The filter fabric roll shall be cut to the proper width prior to installation. The cut width must include sufficient material 'to conform to well perimeter irregularities and for a 6-inch minimum top overlap. Place the fabric roll over the well and unroll a sufficient length to allow placement of the fabric down into the well. Stones or other anchoring objects should be placed on the fabric at the edge of the well to keep the lined well open during windy periods. When overlaps are required between rolls, the upstream roll shall lap a minimum of 2 feet over the downstream roll in order to provide a shingled effect. The overlap ensures fabric continuity or the fabric conforms to the excavation surface during aggregate placement and compaction.

# Aggregate Placement and Compaction

Drainage aggregate shall be placed in lifts and compacted using plate compactors. As a rule of thumb, a maximum loose lift thickness of 12 inches is recommended. The compaction process ensures fabric conformity to the excavation sides, thereby reducing the potential for soil piping and fabric clogging.

# Overlapping and Covering

Following aggregate placement, the fabric previously weighted by stones should be folded over the aggregate to form a 6" minimum longitudinal lap. The desired fill soil should be placed over the lap at sufficient intervals to maintain the lap during subsequent backfilling.

# Contamination

Care shall be exercised to prevent natural or fill soils from intermixing with the drainage aggregate. All contaminated aggregate shall be removed and replaced with uncontaminated aggregate.

### Voids Behind Fabric

Voids can be created between the fabric and excavation sides and should be avoided. Removing boulders or other obstacles from the trench walls is one source of such voids. Natural soils should be placed in these voids at the most convenient time during construction to ensure fabric conformity to the excavation sides. Soil piping, fabric clogging, and possible surface subsidence will be avoided by this remedial process.

#### Unstable Excavation Sides

Vertically excavated trench walls may be difficult to maintain in areas where the soil moisture is high or where soft cohesive or cohesionless soils predominate. These conditions may require laying back of the side slopes to maintain stability; trapezoidal rather than rectangular cross sections may

#### Foundation Protection

Dry wells 3 or more feet deep shall be located at least 10 feet down gradient from foundation walls.

#### Observation Well

An observation well, as described in subsection 3.4.4.8 and Figure 3-5, will be provided. The depth of the well, at the time of installation, will be clearly marked on the well cap.

#### Maintenance

Dry wells shall be designed to minimize maintenance. However, it is recognized that all infiltration facilities are subject to clogging by sediment, oil, grease, grit and other debris. In addition, the performance andlongevity of these structures is not well documented. Consequently, a monitoring observation well is required for all infiltration structures.

The observation well should be monitored periodically. For the first year after completion of construction, the well should be monitored on a quarterly . basis and after every large storm. It is recommended that a log book be maintained indicating the rate at which the facility dewaters after large storms and the depth of the well for each observation. Once the performance characteristics of the structure have been verified, the monitoring schedule can be reduced to an annual basis, unless the performance data indicate that a more frequent schedule is required.

> OWNER / DEVELOPER OUR LADY OF PERPETUAL HELP ROMAN CATHOLIC CHURCH ILCHESTER ROAD ELLICOTT CITY, MARYLAND 21043 (301) - 744 - 4251

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CIVIL ENGINEERS & LAND SURVEYORS

8388 COURT AVE. ELLICOTT CITY, MD. 21043 (301) 461 - 2855

DEVELOPER'S CERTIFICATE ENGINEER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SED-WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND IMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIRE-MENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PRO-GRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DIS-TRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S. SOIL CONSERVATION ERVICE THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED:

HOWARD SOIL CONSERVATION DISTRICT

APPROVED: OFFICE OF PLANNING AND ZONING

AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY HEALTH DEPARTMENT. FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS.

10-50-87 SECTION/AREA LOT / PARCEL No. PROPERTY NAME PLAT No. / L.F. BLOCK No. ZONE TAX / ZONE ELEC. DIST. CENSUS TR. R-20 MAP 10 274 / 939 SEWER -CODE

APPROVED: DEPARTMENT OF PUBLIC WORKS

FOR PUBLIC WATER, STORM

DRAINAGE SYSTEMS AND ROADS.

# NOTES & DETAILS

NEW CHURCH ADDITION OUR LADY OF PERPETUAL HELP

TAX MAP 31 PARCEL 260 ist. ELECTION DISTRICT HOWARD CO. MD. JULY 23, 1984 SCALE: AS SHOWN SHEET 4 OF 4

> REVISED: AUGUST 22, 1984 SDP - 84 - 294